

(1) Claim 61

Claim 61 is an independent claim and is supported, e.g., as shown by the following Table A:

TABLE A

Claim 61	Present Application
[(a)] In an optical scanner having	[(a)] A scanning optical apparatus is disclosed. See, e.g., p. 1, lines 5-6; p. 7, line 24; p. 8, line 14; p. 9, line 7; p. 11, line 15; p. 19, lines 11-12; p. 23, line 23.
[(b)] a source of a light beam,	[(b)] The scanning optical apparatus includes a light source means 1 (see, e.g., Fig. 4A; p. 24, lines 4-6) or 11 (e.g., Figs. 12A, 16A, 20A; p. 35, lines 9-11).
[(c)] a deflector for deflecting said light beam and	[(c)] The scanning optical apparatus also includes a light deflector 5 (see, e.g., Figs. 4A and 12A; p. 24, lines 18-25; Fig. 16A; p. 41, lines 10-11) or polygon mirror 15 (e.g., Fig. 20A; p. 46, line 23).

Claim 61	Present Application
<p>[(d)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,</p>	<p>[(d)] The scanning optical apparatus further includes an fθ lens 6 (Fig. 4A), 36 (Fig. 12A), 46 (Fig. 16A), or 56 (Fig. 20A) that causes the beam of light deflected by the light deflector to be imaged on a surface. See, e.g., p. 24, line 26 through p. 25, line 5 (Fig. 4A); p. 35, line 24 (Fig. 12A); p. 41, line 19 (Fig. 16A); p. 46, line 20 (Fig. 20A).</p>

Claim 61	Present Application
<p>[(e)] the improvement wherein the curvatures in a sub-scanning direction of at least two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and</p>	<p>[(e)] Both lens surfaces of the fθ lens (6, 36, 46, 56) have curvatures in the sub-scanning direction that vary continuously from the on-axis toward the off-axis in the effective portion of the lens. See, e.g., p. 25, lines 5-12 (Fig. 5); p. 37, lines 14-17, and p. 39, lines 5-7 (Fig. 13); p. 39, line 27 through p. 40, line 5, and p. 41, lines 23-25 (Fig. 18); p. 49, lines 3-7 and 21-25 (Fig. 22).</p>

Claim 61	Present Application
[(f)] independently of the curvatures in the main scanning direction, and	[(f)] The lens shape in the sub-scanning plane is independent of the lens shape in the main scanning plane. See, e.g., p. 8, lines 9 to 10 and 27. See also, e.g., equations (c) & (d) and Table 1, p. 26, line 25 through p. 28; equation (e) and Table 3, p. 36 through p. 37, line 13; equation (f) and Tables 4 and 5, p. 41, line 25 through p. 42, line 8, and pp. 44, 48; Table 2, Page 32; and Table 6, Page 53.
[(g)] wherein the curvatures in the main and sub-scanning directions are non-symmetrical with respect to the optical axis.	[(g)] See (f) above.

(2) Claim 62

Claim 62 depends from Claim 61 and further recites that the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective

scanning region. For support, see, e.g., p. 19, lines 17-18; p. 23, lines 9-11; and p. 38, lines 18-22 ("the lateral magnification in the sub-scanning direction... can be uniformized....").

(3) Claim 63

Claim 63 depends from Claims 61 and 62 and further recites that the imaging lens is a single lens. For support, see, e.g., lenses 6 (Fig. 4A), 26 (Fig. 8A), 36 (Fig. 12A), 46 (Fig. 16A), and 56 (Fig. 20A); see also p. 46, line 6 (see, e.g., Embodiments 1-5).

(4) Claim 64

Claim 64 depends from Claim 63 and further recites that the entrance face of the imaging lens has a cross section taken in the sub-scanning direction which is concave at the center of scanning and convex at either end of scanning. For support, see, e.g., Fig. 13 (and Figs. 12B(1)-(2); p. 37, lines 17-21); Fig. 18 (and Figs. 16B(1)-(2)); and Fig. 22 (and Figs. 20B(1)-(2)) (see, e.g., Embodiments 3-5).

(5) Claim 65

Claim 65 depends from Claim 64 and further recites that the imaging lens has a surface that is aspheric in the main scanning direction, which is supported at, e.g., p. 26, line 20, and p. 41, lines 20 to 21 ("an aspherical surface shape") (see, e.g., Embodiments 3-5).

(6) Claim 66

Claim 66 depends from Claim 65 and further recites that the imaging lens has a surface having a point of inflection in the main scanning direction, as shown by, e.g., Figs. 12A, 14, 16A, and 20A (see, e.g., Embodiments 3-5).

(7) Claim 67

Claim 67 depends from Claim 65 and further recites that the light source has a plurality of light-emitting portions. For support, the present application discloses, e.g., a multibeam optical system with light source means 11 having a plurality of light source units (e.g., p. 35, lines 7-10; p. 49, line 11; p. 50, line 10) (see, e.g., Embodiments 3-5).

(8) Claim 68

Claim 68 depends from Claim 67 and recites the use of resin (to make the element of the imaging lens which has such a surface that the curvature in the sub-scanning direction varies continuously along the main scanning direction over the effective area of said imaging lens). The present application discloses the use of plastic (see, e.g., p. 11, lines 11-12; p. 25, line 23; p. 40, line 24).

(9) Claims 69 through 72

Claim 69 depends from Claim 61 and like Claim 65 recites that the imaging lens has a surface that is aspheric in the main scanning direction.

Claim 70 depends from Claim 69 and like Claim 66 recites that the imaging lens has a surface having a point of inflection in the main scanning direction.

Claim 71 depends from Claim 61 and like Claim 67 recites that the light source has a plurality of light-emitting portions.

Claim 72 depends from Claim 71 and like Claim 68 recites the use of resin.

Applicant respectfully submits that such features are supported for the reasons set forth above with respect to Claims 65 through 68.

It is submitted that the foregoing indication of support is fully responsive to the requirement set forth in the Official Action. Favorable consideration of this response is respectfully requested.

REQUEST FOR INTERVIEW AND CONCLUSION

As was also discussed during the telephonic conversation, Applicant respectfully requests a personal interview with the Examiner to discuss the proposed interference. Accordingly, Applicant's undersigned representative will contact the Examiner shortly to arrange a time convenient to the Examiner.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Attorney for Applicant

Registration No. 37,838

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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